

Phospho-ULK1 (S556) Antibody

Rabbit mAb

Catalog # AP93134

Product Information

Application	WB
Primary Accession	O75385
Reactivity	Human, Mouse
Clonality	Monoclonal
Other Names	ATG1; ATG1A; hATG1; ULK1; UNC51;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	112631

Additional Information

Dilution	WB 1:500~1:2000
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Phospho-ULK1 (S556)
Description	Serine/threonine-protein kinase involved in autophagy in response to starvation. Acts upstream of phosphatidylinositol 3-kinase PIK3C3 to regulate the formation of autophagophores, the precursors of autophagosomes.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	ULK1 {ECO:0000303 PubMed:9693035, ECO:0000312 HGNC:HGNC:12558}
Function	Serine/threonine-protein kinase involved in autophagy in response to starvation (PubMed: 18936157 , PubMed: 21460634 , PubMed: 21795849 , PubMed: 23524951 , PubMed: 25040165 , PubMed: 29487085 , PubMed: 31123703). Acts upstream of phosphatidylinositol 3-kinase PIK3C3 to regulate the formation of autophagophores, the precursors of autophagosomes (PubMed: 18936157 , PubMed: 21460634 , PubMed: 21795849 , PubMed: 25040165). Part of regulatory feedback loops in autophagy: acts both as a downstream effector and negative regulator of mammalian target of rapamycin complex 1 (mTORC1) via interaction with RPTOR (PubMed: 21795849). Activated via phosphorylation by AMPK and also acts as a regulator of AMPK by mediating phosphorylation of AMPK subunits PRKAA1, PRKAB2 and PRKAG1, leading to negatively regulate AMPK activity (PubMed: 21460634). May phosphorylate ATG13/KIAA0652 and RPTOR; however such data need additional evidences (PubMed: 18936157). Plays a role early in neuronal differentiation and is required for granule cell axon formation (PubMed: 11146101). Also phosphorylates SESN2 and SQSTM1 to

regulate autophagy (PubMed:[25040165](#), PubMed:[37306101](#)). Phosphorylates FLCN, promoting autophagy (PubMed:[25126726](#)). Phosphorylates AMBRA1 in response to autophagy induction, releasing AMBRA1 from the cytoskeletal docking site to induce autophagosome nucleation (PubMed:[20921139](#)). Phosphorylates ATG4B, leading to inhibit autophagy by decreasing both proteolytic activation and delipidation activities of ATG4B (PubMed:[28821708](#)).

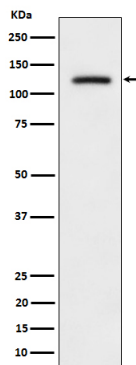
Cellular Location

Cytoplasm, cytosol. Preautophagosomal structure. Note=Under starvation conditions, is localized to punctate structures primarily representing the isolation membrane that sequesters a portion of the cytoplasm resulting in the formation of an autophagosome.

Tissue Location

Ubiquitously expressed. Detected in the following adult tissues: skeletal muscle, heart, pancreas, brain, placenta, liver, kidney, and lung

Images



Western blot analysis of Phospho-ULK1 (S556) expression in 293T transfected with ULK1 cell lysate.

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